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(71) Applicant (*for all designated States except US*): **BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY** [GB/GB]; 81 Newgate Street, London Greater London EC1A 7AJ (GB).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **HEALEY, Peter** [GB/GB]; 31 Norbury Road, Ipswich Suffolk IP4 4RQ (GB). **SIKORA, Edmund, Sergio, Robert** [GB/GB]; Ashlyn, Ashbocking Road, Swilland, Ipswich Suffolk IP6 9LJ (GB).

(74) Agent: **CHABASSEUR, Vincent, Robert**; BT Group Legal, Intellectual Property Department, PP: C5A, BT Centre, 81 Newgate Street, London Greater London EC1A 7AJ (GB).

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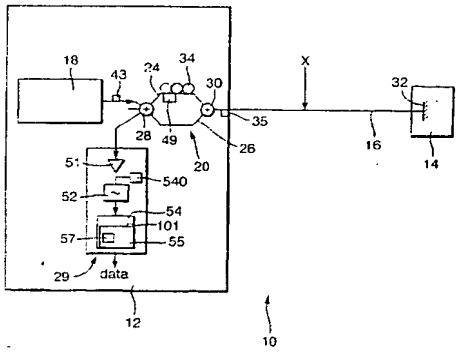
(54) Title: EVALUATING THE POSITION OF A TIME-VARYING DISTURBANCE



(57) Abstract: The present invention relates to a method of and apparatus for evaluating the position of a disturbance on an optical link, in particular where the disturbance is a time-varying disturbance. An optical time domain reflectometry technique is used in which a series of low coherence test pulses is launched by means of an optical pulse source (18) into an the optical link (16), and the backscattered return signal is monitored. The test pulses pass through an unbalanced Mach Zhender interferometer (20) with the result that for each test pulse, a pair of time-displaced pulse copies is launched onto the link (16). The backscattered return signal is passed through the same interferometer (20), which causes the pulse copes of each pair to become realigned and to interfere with one another. A time-varying disturbance (x) is likely to affect each pulse copy of a pair differently. As a result, an abnormality such as a step is likely occur in the backscattered signal. From the time position of an abnormality, the distance of the disturbance responsible is evaluated.

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